

A RENIFORM NEMATODE, ROTYLENCHULUS PARVUS

D. E. Stokes

A reniform nematode, Rotylenchulus parvus (Williams, 1960) Sher, 1961 was described from specimens recovered from soil associated with sugarcane, Saccharum officinarum L., roots in Mauritius, Africa. This nematode is closely related to the reniform nematode, Rotylenchulus reniformis Linford and Oliveira 1940, which is known to parasitize many important crop plants (4).

Geographic Distribution

In the continental U.S. Rotylenchulus parvus is known to occur only in California (4); however, it is reported from St. Croix and St. Thomas, U.S. Virgin Islands (3). This nematode is widely distributed in Eastern and Southern Africa, being reported from Kenya, Mauritius, Republic of South Africa, Zambia, and Zimbabwe (4). It also occurs in Queensland, Australia (1) and the Dominican Republic (5).

Hosts

Rotylenchulus parvus has been reported in association with plants of several economically important crops (1,3,4). These include:

Barley	<u>Hordeum vulgare</u> L.
Bermuda grass	<u>Cynodon dactylon</u> (L.) Pers.
Cotton	<u>Gossypium hirsutum</u> L.
Cowpea	<u>Vigna unguiculata</u> (L.) Walp.
Pearl millet	<u>Pennisetum glaucum</u> (L.) R. Br.
Papaya	<u>Carica papaya</u> L.
Sugarcane	<u>Saccharum officinarum</u> L.
Sunnhemp	<u>Crotalaria juncea</u> L.
Tobacco	<u>Nicotiana tabacum</u> L.

Biology, Life-Cycle, and Host Response

Mature females deposit as many as 37 individual eggs in a gelatinous matrix outside the host root tissue. Males of Rotylenchulus parvus are very rare, and the life-cycle can be completed parthenogenetically. Eggs usually hatch 16 to 22 days after being laid. Females usually develop and mature after feeding on host plants, thus completing the 27-36 day egg-to-egg life-cycle (2).

Temperatures of 20-35 C support R. parvus reproduction; however, the highest nematode population in the soil and highest number of egg masses per root system are produced at 30 C.

One population of R. parvus increased 3,000% in a monoculture of corn. Also, the percentage of R. parvus to other plant parasitic nematodes increased from 16% to 76% (4). Rotylenchulus parvus was associated with roots exhibiting severe distortion and occasional lesions on sugarcane in the Dominican Republic (5).

There is no control reported for R. parvus (4).

### Survey and Detection

1) Inspect the plant tops for chlorosis, wilting or general unthriftiness. Inspect plant roots for sparseness, distortion, and lesions. Roots should also be inspected for the presence of soil and organic matter that would adhere to gelatinous matrices containing nematode eggs.

2) Collect about 1 pint of soil and roots and send to a nematology laboratory, using care to prevent overheating or drying.

### Literature Cited

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